

Advanced Harmonic Filter



The Danfoss AHF 005 and AHF 010 are advanced harmonic filters, not to be compared with traditional harmonic trap filters. The Danfoss harmonic filters have been specially designed to match the Danfoss frequency converters.

By connecting the Danfoss harmonic filters AHF 005 or AHF 010 in front of a Danfoss frequency converter, the harmonic current distortion generated back to the mains is reduced to a minimum.

Calculation Software

Danfoss has created a PC based program MCT31 for calculation of harmonics with different principles for suppression. It can calculate the harmonics for danfoss frequency converters depending on actual system (transformer, cables, other loads, etc.)

Product range

Line Voltage

- 380 – 415 V AC (50 Hz)
- 440 – 480 V AC (60 Hz)
- 500 – 525V (50Hz)
- 690V (50Hz)

Filter current

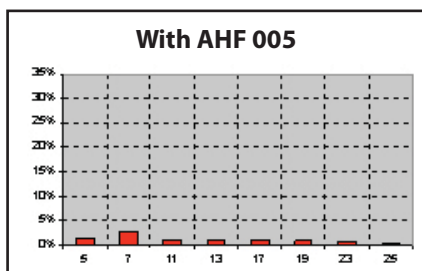
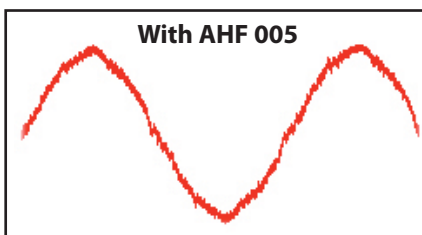
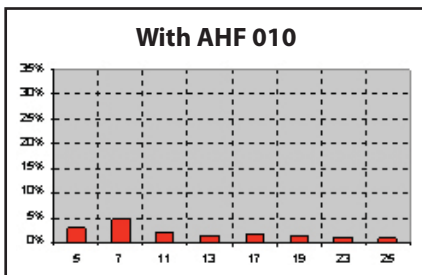
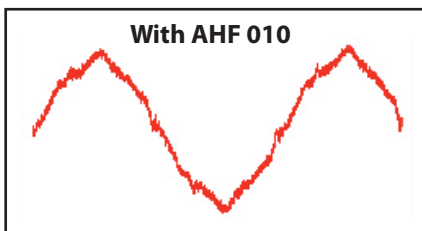
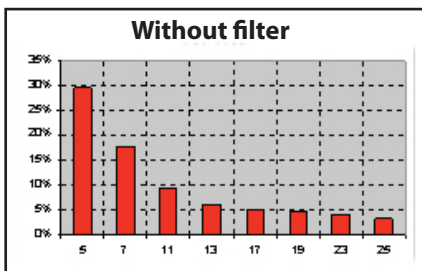
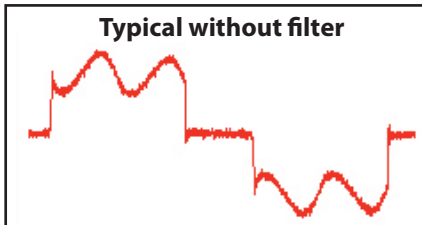
- 10A – 390 A
- (Modules can be paralleled for higher power)

Enclosure degree

- IP 20

Features	Benefits
User-friendly	
• Small compact housing	• Fits into a panel
• Easy to use in retrofit applications	• High flexibility
• One filter module can be used for several frequency converters	• Lowers system cost
• Complies with IEEE 519-1992 and stage 1 of future EN 61000-3-12	• Installation in harsh environments
• Easy commissioning	• No adjustment necessary
• No routine maintenance required	• No running expenses
Efficient	
• AHF 005 reduces the total harmonic current distortion to 5%	• Reduces transformer load
• AHF 010 reduces the total harmonic current distortion to 10%	• Reduces transformer load
• Low filter losses	• High efficiency (> 0.98)

Current and Distortion Spectrum at Full Load



Specifications

Specifications	
Line voltage	± 10%
Frequency	+/- 5%
Overload current	160% for 60 s
Efficiency	0.98
True power factor	0.85 @ 50% load 0.99 @ 100% load 1.0 @ 150% load
Ambient temperature	5°C – 40°C without derating

Ordering numbers

380V – 415V			
IAHF,N	Typical motor used (kW)	AHF 005	AHF 010
10 A	4, 5,5	175G6600	175G6622
19 A	7,5	175G6601	175G6623
26 A	11	175G6602	175G6624
35 A	15, 18,5	175G6603	175G6625
43 A	22	175G6604	175G6626
72 A	30, 37	175G6605	175G6627
101 A	45, 55	175G6606	175G6628
144 A	75	175G6607	175G6629
180 A	90	175G6608	175G6630
217 A	110	175G6609	175G6631
289 A	132, 160	175G6610	175G6632
324 A		175G6611	175G6633
370 A	200	175G6688	175G6691
434 A	250	2 x 175G6609	2 x 175G6631
578 A	315	2 x 175G6610	2 x 175G6632
613 A	350	175G6610 + 175G6611	175G6632 + 175G6633

440V – 480V			
IAHF,N	Typical motor used (HP)	AHF 005	AHF 010
19 A	10, 15	175G6612	175G6634
26 A	20	175G6613	175G6635
35 A	25, 30	175G6614	175G6636
43 A	40	175G6615	175G6637
72 A	50, 60	175G6616	175G6638
101 A	75	175G6617	175G6639
144 A	100, 125	175G6618	175G6640
180 A	150	175G6619	175G6641
217 A	200	175G6620	175G6642
289 A	250	175G6621	175G6643
324 A	300	175G6689	175G6692
370 A	350	175G6690	175G6693
506 A	450	175G6620 + 175G6621	175G6642 + 175G6643
578 A	500	2 x 175G6621	2 x 175G6643

500 – 525 V			
IAHF,N	Typical motor used (kW)	AHF 005	AHF 010
10 A	4, 5,5	175G6644	175G6656
19 A	7,5, 11	175G6645	175G6657
26 A	15, 18,5	175G6646	175G6658
35 A	22	175G6647	175G6659
43 A	30	175G6648	175G6660
72 A	37, 45	175G6649	175G6661
101 A	55, 75	175G6650	175G6662
144 A	90, 110	175G6651	175G6663
180 A	132	175G6652	175G6664
217 A	160	175G6653	175G6665
289 A	200	175G6654	175G6666
324 A	250	175G6655	175G6667
434 A	315	2 x 175G6653	2 x 175G6665
469 A	355	175G6652 + 175G6654	175G6664 + 175G6666
578 A	400	2 x 175G6654	2 x 175G6666

690 V			
IAHF,N	Typical motor used (kW)	AHF 005	AHF 010
43 A	37, 45	130B2328	130B2293
72 A	55, 75	130B2330	130B2295
101 A	90	130B2331	130B2296
144 A	110, 132	130B2333	130B2298
180 A	160	130B2334	130B2299
217 A	200	130B2335	130B2300
289 A	250	130B2331 + 130B2333	130B2301
324 A	315	130B2333 + 130B2334	130B2302
370 A	400	130B2334 + 130B2335	130B2304